



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant : Clauss et al.                      Art Unit : 2113  
Serial No. : 10/081,446                      Examiner : Scott T. Baderman  
Filed : February 20, 2002                      Confirmation No.: 3040  
Title : ERROR HANDLING AND REPRESENTATION IN A COMPUTER-AIDED  
DESIGN ENVIRONMENT

**Mail Stop Appeal Brief - Patents**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

**BRIEF ON APPEAL**

**(1) Real Party in Interest**

Autodesk, Inc., the assignee of this application, is the real party in interest.

**(2) Related Appeals and Interferences**

There are no related appeals or interferences.

**(3) Status of Claims**

Claims 16-67 are pending in this application. Claims 16-45 are rejected. Claims 46-67 are allowed. The rejection of claims 16-45 is appealed.

**(4) Status of Amendments**

The claims have not been amended subsequent to final rejection. There are no unentered amendments.

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**(5) Summary of Claimed Subject Matter**

Independent claims 16, 26, and 36 are directed towards providing a CAD user with information to facilitate the user in determining a cause of a failure within the CAD design and information about how to recover from the failure (Specification p. 13, ll. 13-14 and FIG. 4B). A user input to perform an operation on a CAD design is received. A failure is detected during performance of the operation, and a failure indication is generated upon detecting the failure (Specification at p. 8, ll. 22-23 and FIG. 3). The user is provided with information to facilitate the user in determining a location of a cause of the failure within the CAD design (Specification at p. 12, ll. 11-21 and FIG. 4B). The user is also provided with information about how to recover from the failure (Specification at p. 13, ll. 3-14 and FIG. 4B). For example, FIG. 4B shows error 480 indicating that the shell feature could not be created because the shell is too thick.

Independent claim 16 recites the features in the context of a computing apparatus executing a computer aided application (Specification at p. 6, ll. 2-3). Independent claim 26 recites the features in the context of an apparatus (Specification at p. 6, ll. 2-3) and includes a storage medium having stored therein a plurality of programming instructions, which when executed, the instructions cause the features to be executed (Specification at p. 8, ll. 2-3 and FIG. 2). Independent claim 36 recites the features in the context of an article of manufacture having stored therein a plurality of programming instructions that, when executed, cause a machine to execute the features (Specification at p. 7, ll. 4-6, p. 8, ll. 2-3 and FIG. 2).

**(6) Grounds of Rejection**

**a. Claims 16-23, 26-33, and 36-43**

Claims 16-23, 26-33, and 36-43 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,397,117 ("Burrows") in view of U.S. Patent 5,740,354 ("Ben-Natan").

**b. Claims 24, 25, 34, 35, 44, and 45**

Claims 24, 25, 34, 35, 44, and 45 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Burrows and Ben-Natan and further in view of U.S. Patent No. 6,115,544 ("Mueller").

**(7) Argument**

**a. Claims 16-23, 26-33, and 36-43 are not properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Burrows in view of Ben-Natan.**

**Claims 16-23**

Claim 16 recites, in a computer apparatus executing a CAD application, a method including the step of receiving a user input to perform an operation on a CAD design. A failure is detected during performance of the operation, and a failure indication is generated upon detecting the failure. A user is provided with information to facilitate the user in determining a location of a cause of the failure within the CAD design and information about how to recover from the failure. Appellant requests reversal of the rejection of claim 16 because neither Burrows nor Ben-Natan, alone or in combination, disclose the elements of claim 16.

Burrows is directed to a distributed CAD system that includes a CAD server station and one or more CAD client stations connected to the CAD server station, for example, by an intranet or the Internet (see Col. 3, line 43 to Col. 4, line 18; Fig. 2). The CAD server station includes a CAD tool for performing CAD tasks and the CAD client stations include display and data entry facilities for displaying a design parameter entry document to a user and accepting design parameters entered by the user (see Col. 4, lines 33-49; Fig. 3). The Examiner asserts that Burrows discloses receiving user input to perform an operation on a CAD design and generating a failure indication (error message) upon detecting a failure during performance of the operation.

The Examiner concedes that Burrows does not disclose providing information to the user to facilitate the user in determining a location of a cause of the failure within the CAD design and information about how to recover from the failure, as is required by claim 1 (Office Action,

mailed 7/6/04, p. 4 at §9). For this limitation, the Examiner relies on Ben-Natan which discloses a method of error handling.

The Examiner asserts Ben-Natan discloses returning an error message as a result of a failure, wherein the error message includes information to facilitate a user in determining a location of a cause of the failure and information about how to recover from the failure (Office action of July 6, 2004, p. 4-5). Applicant respectfully disagrees.

Ben-Natan is directed to a method for associating error reports, *e.g.*, an error report from a first computer program and an error report from a second computer program (Col. 3, lines 37-55). Ben-Natan does not teach or suggest a CAD application nor a CAD design, and does not disclose receiving user input to perform an operation on a CAD design, nor detecting a failure during performance of such an operation, as required by claim 16. Further, Ben-Natan fails to provide information to a user about how to recover from the failure. Merely providing an error report that indicates the presence of an error to a user does not provide information about how to recover from the failure; Ben Natan's user must recover from the failure without the benefit of information about how to recover.

The Examiner asserts that the information contained in the error reports shown in FIGS. 9-12 of Ben-Natan "at the very least provides similar information to aid a user in knowing how to recover from a failure" (Final Office action of February 3, 2005 at p. 5). Applicant respectfully disagrees. The Examiner asserts that the error message "could not print document" in Ben-Natan FIG. 10 "could encourage the user to reload the driver, etc." (Final Office action of February 3, 2005 at p. 5). Applicant respectfully submits that the Examiner's assertion that the error message "could encourage the user to reload the driver, etc." illustrates the deficiency in Ben-Natan. The user may be encouraged to reload the driver, but that may not help the user recover from the failure. Similarly, the user may be encouraged to check the paper supply, check the power supply, check the connection to the printer, and various other possibilities. The point being, that the error message does not provide the user with information about how to recover from the failure, as required by claim 16.

By contrast, information provided to a user about how to recover from a failure in one example can be the provision of a text string indicating "modeling error: shell too thick," if a construction error caused by a shell that is too thick is the cause of the failure (Specification at p.

13, ll. 3-13). The user is thereby provided information about how to recover, *i.e.*, by making the shell thinner. Optionally, the “shell” portion of the CAD design can be highlighted to provide the user visual feedback related to the cause of the error/warning (Specification at p. 13, ll. 14-17).

Applicant respectfully submits the Examiner has failed to show a *prima facie* case of obviousness. “To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings” [MPEP, §2143]. The Examiner has combined a first reference, Burrows, that discloses a distributed CAD system, where the CAD system can send an error message to a CAD client, with a second reference, Ben-Natan, that has nothing to do with CAD systems whatsoever. Ben-Natan discloses error-handling when two more computer programs are generating error reports. The appellant respectfully submits there is no motivation to combine Burrows and Ben-Natan either implicitly or explicitly in the references. Claim 16 is clearly directed to failures that occur *within a CAD design* and providing information to a user to facilitate the user in determining a location of a cause of the failure and how to recover – all within the context of a CAD design and CAD application. Burrows does not specifically address the problem of failure indication and has no motivation to address this problem: Burrows is directed toward a distributed CAD system. Ben-Natan has nothing to do with CAD applications. Accordingly, there is no reason it would be obvious to modify Burrows in view of Ben-Natan.

Second, to establish a case of *prima facie* obviousness, “there must be a reasonable expectation of success”. There is no reasonable expectation of success when combining Burrows and Ben-Natan, as neither disclose “providing information to a user ... about how to recover from the failure”, as required by claim 16.

Third, “the prior art reference (or references when combined) must teach or suggest all the claim limitations” [MPEP, §2143]. Neither Burrows nor Ben-Natan, alone or in combination, disclose the limitations of claim 16. Particularly, neither disclose “providing information to a user ... about how to recover from the failure” as required by claim 16. Thus, even in combination, not all limitations are taught.

Accordingly a *prima facie* case of obviousness has not been established and claim 16 is in condition for allowance. Claims 17-23 depend from claim 16, and are therefore allowable for at least the same reasons.

Accordingly, appellant requests reversal of the rejection of independent claim 16. Claims 17-23 depend from claim 16. For the reasons noted above with respect to claim 16, appellant requests reversal of the rejection of dependent claims 17-23.

### **Claims 26-33**

Claim 26 recites an apparatus including a storage medium having stored therein a plurality of programming instructions. When executed, the instructions cause the apparatus to: receive a user input to perform an operation on a CAD design; detect a failure during performance of the operation; generate a failure indication upon detecting the failure; and provide a user with information to facilitate the user in determining a location of a cause of the failure within the CAD design and about how to recover from the failure.

For at least the reasons stated above in reference to claim 16, Burrows and Ben-Natan, alone or in combination, fail to disclose an apparatus having stored therein a plurality of programming instructions to cause an apparatus to perform the steps required by claim 26. In particular, they fail to disclose providing a user with information to facilitate the user in determining a location of a cause of a failure within the CAD design and about how to recover from the failure. Further, there is no motivation to combine Burrows with Ben-Natan. As such, claim 26 is patentable over Burrows in view of Ben-Natan and is in condition for allowance. Claims 27-33 depend from claim 26 and are therefore allowable for at least the same reasons.

Accordingly, for the reasons noted above, appellant requests reversal of the rejection of claim 26. Claims 27-33 depend from claim 26 and appellant requests reversal of the rejection of claims 27-33 for at least the same reasons.

### **Claims 36-45**

Claim 36 recites an article of manufacture having stored therein a plurality of programming instructions. When executed, the instructions cause a machine to: receive a user input to perform an operation on a CAD design; detect a failure during performance of the

operation; generate a failure indication upon detecting the failure; and provide a user with information to facilitate the user in determining a location of a cause of the failure within the CAD design and about how to recover from the failure.

For at least the reasons stated above in reference to claim 16, Burrows and Ben-Natan, either alone or in combination, fail to disclose an apparatus having stored therein a plurality of programming instructions to cause an apparatus to perform the steps required by claim 36. In particular, they fail to disclose providing a user with information to facilitate the user in determining a location of a cause of a failure within the CAD design and about how to recover from the failure. Further, there is no motivation to combine Burrows and Ben-Natan. Accordingly, claim 36 is patentable over Burrows in view of Ben-Natan and is in condition for allowance. Claims 37-45 depend from claim 36 and are therefore allowable for at least the same reasons.

Appellant requests reversal of the rejection of claim 36. Claims 37-45 depend from claim 36 and appellant requests reversal of the rejection of claims 37-45 for at least the same reasons.

**b. Claims 24, 25, 34, 35, 44, and 45 are not properly rejected under 35 U.S.C. § 103(a) as being unpatentable over Burrows and Ben-Natan and further in view of Mueller.**

Claims 24-25, 34-35, and 44-45 depend from claims 16, 26, and 36 respectively. Claims 16, 26, and 36 are allowable over Burrows in view of Ben-Natan for at least the reasons described above. Mueller is directed to a method for displaying error messages to a computer programmer to indicate errors in source code that are detected in processing the source code, such as when parsing or compiling the source code (see Abstract). Mueller fails to cure the deficiencies of Burrows and Ben-Natan. For example, Mueller fails to disclose receiving a user input to perform an operation on a CAD design and detect a failure during performance of the operation. Further, Mueller does not provide a user with information to facilitate the user in determining a location of a cause of the failure within the CAD design and about how to recover from the failure.

Accordingly, base claims 16, 26, and 36 are patentable over Burrows in view of Ben-Natan and Mueller. Claims 24, 25, 34, 35, 44 and 45 which depend from claims 16, 26 and 36

are therefore allowable for at least the same reasons. Appellant respectfully requests reversal of the rejections of claims 24, 25, 34, 35, 44 and 45.

**c. Conclusion**

For the foregoing reasons, the rejections should be reversed.

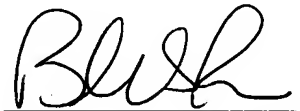
In accordance with appellant's Notice of Appeal filed May 3, 2005, appellant submits this Appeal Brief along with a check in the amount of \$500 for the Appeal Brief filing fee. Please apply any other charges or credits to Deposit Account No. 06-1050.

Brenda Leeds Binder has been given limited recognition under 37 CFR § 11.9(b) as an employee of the Fish & Richardson PC law firm to prepare and prosecute patent applications wherein the patent applicant is a client of Fish & Richardson PC and the attorney or agent of record in the applications is a registered practitioner who is a member of Fish & Richardson, which is the case in the present application.

Respectfully submitted,

Date: \_\_\_\_\_

Aug 3/05



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### **Appendix of Claims**

16. In a computing apparatus executing a computer aided design (CAD) application, a method comprising:
  - receiving a user input to perform an operation on a CAD design;
  - detecting a failure during performance of the operation;
  - generating a failure indication upon detecting the failure; and
  - providing information to a user to facilitate the user in determining a location of a cause of the failure within the CAD design and information about how to recover from the failure.
17. The method of claim 16, wherein said detecting a failure comprises detecting an occurrence of one or more software events that are to result in at least one of an error or a warning.
18. The method of claim 16, wherein comprises generating and displaying a user interface having a title indicative of the operation during which operation, the failure was encountered.
19. The method of claim 16, wherein providing information comprises generating and displaying one or more expandable error messages.
20. The method of claim 16, wherein providing information comprises generating and displaying one or more error messages in a hierarchical manner.
21. The method of claim 16, wherein providing information comprises facilitating receiving an indication of at least one of editing, canceling, and accepting the failure.
22. The method of claim 16, wherein providing information comprises generating and displaying a message having a suggestion for solving the failure.
23. The method of claim 16, wherein providing information comprises visually indicating a portion of the CAD design associated with the failure.

24. The method of claim 23, wherein visually indicating comprises highlighting the portion of the CAD design associated with the failure.

25. The method of claim 23, wherein visually indicating comprises generating and displaying a graphical representation of a light bulb.

26. An apparatus comprising:

a storage medium having stored therein a plurality of programming instructions, which when executed, the instructions cause the apparatus to:

receive a user input to perform an operation on a CAD design;  
detect a failure during performance of the operation;  
generate a failure indication upon detecting the failure; and  
provide information to a user to facilitate the user in determining a location of a cause of the failure within the CAD design and information about how to recover from the failure.

27. The apparatus of claim 26, wherein said programming instructions, which when executed, cause the apparatus to detect an occurrence of one or more software events that are to result in at least one of an error or a warning.

28. The apparatus of claim 26, wherein said programming instructions, which when executed, cause the apparatus to generate and display a user interface having a title indicative of the operation during which operation, the failure was encountered.

29. The apparatus of claim 26, wherein said programming instructions, which when executed, cause the apparatus to generate and display one or more expandable error messages.

30. The apparatus of claim 26, wherein said programming instructions, which when executed, cause the apparatus to generate and display one or more error messages in a hierarchical manner.

31. The apparatus of claim 26, wherein said programming instructions, which when executed, cause the apparatus to facilitate receiving an indication of at least one of editing, canceling, or accepting the failure.

32. The apparatus of claim 26, wherein said programming instructions, which when executed, cause the apparatus to generate and display a message having a suggestion for solving the failure.

33. The apparatus of claim 26, wherein said programming instructions, which when executed, cause the apparatus to visually indicate a portion of the user design associated with the failure.

34. The apparatus of claim 33, wherein said programming instructions, which when executed, cause the apparatus to highlight the portion of the user design associated with the failure.

35. The apparatus of claim 33, wherein said programming instructions, which when executed, cause the apparatus to generate and display a graphical representation of a light bulb.

36. An article of manufacture having stored therein a plurality of programming instructions, which when executed, the instructions cause a machine to:

- receive a user input to perform an operation on a CAD design;
- detect a failure during performance of the operation;
- generate a failure indication upon detecting the failure; and
- provide information to a user to facilitate the user in determining a location of a cause of the failure within the CAD design and information about how to recover from the failure.

37. The article of manufacture of claim 36, wherein said programming instructions, which when executed, cause the machine to detect an occurrence of one or more software events that are to result in at least one of an error and a warning.

38. The article of manufacture of claim 36, wherein said programming instructions, which when executed, cause the machine to generate and display a user interface having a title indicative of the operation during which operation, the failure was encountered.

39. The article of manufacture of claim 36, wherein said programming instructions, which when executed, cause the machine to generate and display one or more expandable error messages.

40. The article of manufacture of claim 36, wherein said programming instructions, which when executed, cause the machine to generate and display one or more error messages in a hierarchical manner.

41. The article of manufacture of claim 36, wherein said programming instructions, which when executed, cause the machine to facilitate receiving an indication of at least one of editing, canceling, or accepting the failure.

42. The article of manufacture of claim 36, wherein said programming instructions, which when executed, cause the machine to generate and display a message having a suggestion for solving the failure.

43. The article of manufacture of claim 36, wherein said programming instructions, which when executed, cause the machine to visually indicate a portion of the user design associated with the failure.

44. The article of manufacture of claim 43, wherein said programming instructions, which when executed, cause the machine to highlight the portion of the user design associated with the failure.

45. The article of manufacture of claim 43, wherein said programming instructions, which when executed, cause the machine to generate and display a graphical representation of a light bulb.